

IN THE CLAIMS:

Please ~~cancel~~ non-elected Claims 6-11, without prejudice to or disclaimer of the subject matter thereof, and without prejudice to Applicants' right to submit such claims in a divisional application. Please amend the remaining claims as follows: (A copy of a marked up version with markings to show changes made is attached hereto.)

1. (Amended) An apparatus for carrying out a catalyzed reaction, comprising:

A2 a stack comprising a plurality of layers on top of one another, each layer comprising a catalyst material and having distribution and collection channels for conducting educts of a reaction mixture and reaction products, respectively;

a plurality of end plates that bound said stack in a stacking direction, at least one end plate having supplying or discharging lines that are connected with said channels; wherein,

said catalyst material of said layers comprises a gas permeable material, providing a gas flow path that penetrates through said gas permeable materials, whereby said reaction mixture passes from said distribution channels to said collection channels by diffusing through said layers;

A2 lateral edge surfaces of said layers, which edge surfaces collectively form lateral surfaces of said stack, have an edge seal that prevents gases diffusing through said layers from exiting said edge surfaces.

Please enter new Claims 12-22 as follows:

12. (new) The apparatus according to Claim 1, wherein said edge seal comprises a surface portion of said catalyst material which is more strongly consolidated than a remainder of said catalyst material.

AB 13. (new) The apparatus according to Claim 1, wherein said edge seal comprises a surface portion of said catalyst material in which another material is admixed with the catalyst material, which other material forms a seal under process conditions of said heterogeneously catalyzed reaction.

14. (new) The apparatus according to Claim 1, wherein said edge seal comprises a surface portion of said catalyst material in which another material is admixed with the catalyst material, which other material forms a seal under pressure.

15. (new) The apparatus of Claim 1, wherein said edge seal comprises an impermeable material is provided on a surface of said stack.

16. (new) The apparatus according to Claim 1, wherein said edge seal comprises a solder material which is penetrated into a surface of said catalyst body.

17. (new) An apparatus for carrying out a catalyzed reaction, comprising:

a stack comprising alternating first and second layers made of a gas permeable catalyst material;

end plates that bound and seal ends of said stack; and

AB supply and discharge lines disposed in at least one of said end plates; wherein:

said first layers have distribution channels connected to said supply line, for conducting a gaseous reaction mixture;

said second layers have collection channels connected to said discharge line, for conducting reaction products of said catalytic reaction;

said reaction mixtures penetrates from said distribution channels to said collection channels by diffusing through said gas permeable material of said layers;

lateral edge surfaces of said layers, which edge surfaces collectively form lateral surfaces of said stack, have an edge seal that prevents gases diffusing through said layers from exiting said edge surfaces.

18. (new) The apparatus according to Claim 17, wherein said edge seal comprises a surface portion of said catalyst material which is more strongly consolidated than a remainder of said catalyst material.

AB 19. (new) The apparatus according to Claim 17, wherein said edge seal comprises a surface portion of said catalyst material in which another material is admixed with the catalyst material, which other material forms a seal under process conditions of said heterogeneously catalyzed reaction.

20. (new) The apparatus according to Claim 17, wherein said edge seal comprises a surface portion of said catalyst material in which another material is admixed with the catalyst material, which other material forms a seal under pressure.

21. (new) The apparatus of Claim 17, wherein said edge seal comprises an impermeable material is provided on a surface of said stack.

AB ~~22.~~ (new) The apparatus according to Claim 17, wherein said edge seal comprises a solder material which is penetrated into a surface of said catalyst body.

(Applicant's Remarks are set forth hereinbelow, starting on the following page.)